

HEADACHE

ILO's

- **Define headache**
- **Compare primary and secondary headache**
- **Explain the mechanisms of primary headache**
- **Describe secondary headache**

Definition

Headaches are a type of pain referred to the surface of the head from deep head structures.

Types :

- 1) Primary headache: Headache with unknown or unclear mechanism. Most common 1ry headaches are:
 - a) Migraine: (vascular cause)
 - b) Tension-type headache (muscular contraction headache)
 - c) cluster headache
- 2) Secondary headache: secondary to other disorders

Primary Headache

a) Migraine.

- ✓ It may occur secondary to prolonged tension or emotions.
- ✓ The headache is sometimes preceded by aura in form of visual disturbances or sensory hallucination (30 minute to 1 hour before headache starts).
- ✓ The pain is pulsatile and accompanied by other symptoms such as nausea, vomiting, blurred vision, and aversion to light, sound, and movement.
- ✓ Mechanism: most likely it is caused by V.C. of the cerebral arteries, which results in ischemia, and this is followed by intense V.D. that causes the headache.
- ✓ Migraines are often triggered by:
 - Food items, such as red wine, chocolate, and aged cheeses.
 - For women, a hormonal connection is likely, since headaches occur at specific points in the menstrual cycle, with use of oral contraceptives, or the use of hormone replacement therapy after menopause.

b) Tension-type headaches:

- ✓ It is the commonest type of 1ry headache.

- ✓ It may be caused by stress, overexertion, loud noise, and other external factors.
- ✓ The typical tension-type headache is described as a tightening around the head and neck, and an accompanying dull ache.

c) Cluster headaches:

- ✓ It is severe, stabbing pain centers around one eye (periorbital), with ipsilateral eye lacrimation and nasal congestion.
- ✓ The headache lasts from 15 minutes to 4 hours and may recur several times in a day for weeks.
- ✓ Heavy smokers are more likely to suffer cluster headaches, which are also associated with alcohol consumption.



Cluster headaches may involve pain around one eye, along with drooping of the lid, tearing and congestion on the same side as the pain

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Secondary headache

- ✓ Headache result from other disorders.
- ✓ Brain tissue itself has no sensitivity to pain_
- ✓ **Pain-sensitive structures in the head include :**
 - a) **Blood vessel walls especially the middle cerebral artery and venous sinuses.**
 - b) **Meninges and tentorium**
 - c) **scalp and neck muscles.**
 - d) **Eyes, ears, teeth and sinuses**

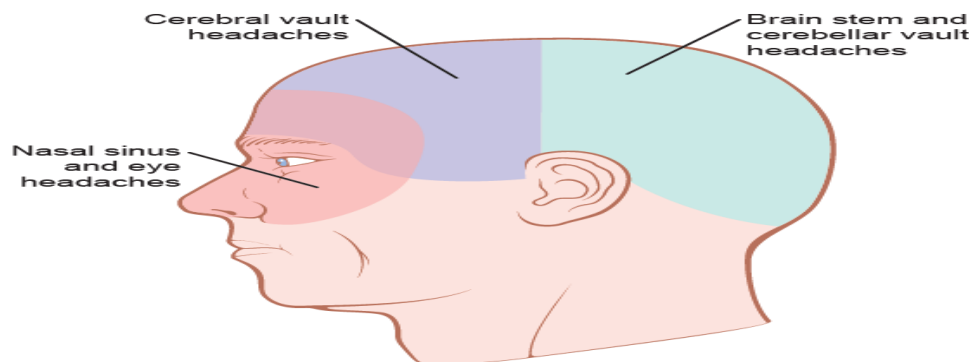
Causes & symptoms

A) Extracranial causes of headache

1. Eye diseases (e.g. glaucoma & hypermetropia), which cause retro-orbital or peri-orbital headache.
2. Sinusitis: The headache may be retro-orbital or in the forehead (in case of the frontal sinus) or in the face (in case of the maxillary sinus).
3. Teeth and gum diseases (toothache).
4. Otitis media and otitis externa.
5. Emotions & tension (psychogenic headache). This causes headache due to spasm of the head muscles.

B) Intracranial causes of headache

1. Stimulation of pain receptors in the cerebral vault above the tentorium, including the upper surface of the tentorium itself, initiates pain impulses in the front half of the head in the areas supplied by the fifth cranial (trigeminal).
2. Stimulation of pain receptors from below the tentorium causes pain in scalp above, behind, and slightly below the ear = occipital headache (area supplied by the second cervical nerves).



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The commonest mechanisms of intracranial headache include the following:

- 1- Meningeal irritation due to e.g.
 - inflammation as in meningitis
 - stretch as in brain tumors
 - irritation by toxic products as in alcohol intake and constipation.

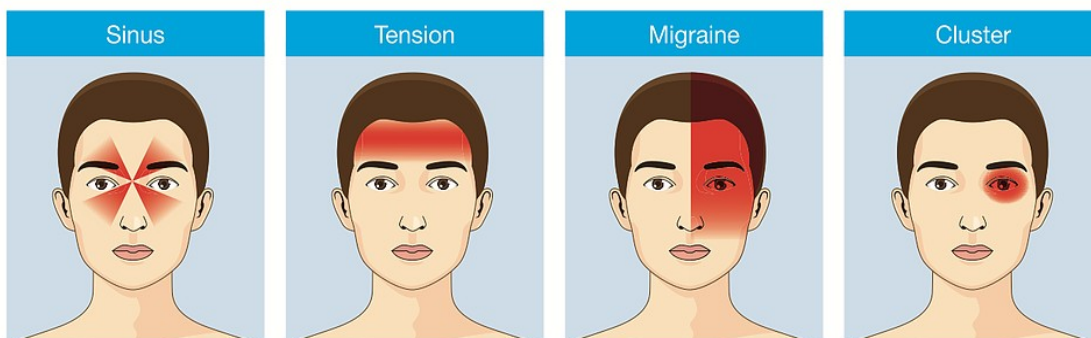
2- Lowering of CSF pressure:

- Removal of only 20ml of the CSF through a lumbar puncture causes severe headache (especially in the upright position) due to stretch of the various dural surfaces and V.D. of the cerebral vessels (see next).

3- Distension of the intracranial arteries due to

- Fevers
- lowering of the CSF pressure (see above)
- hypertension (which causes throbbing headache)

Headache Type



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